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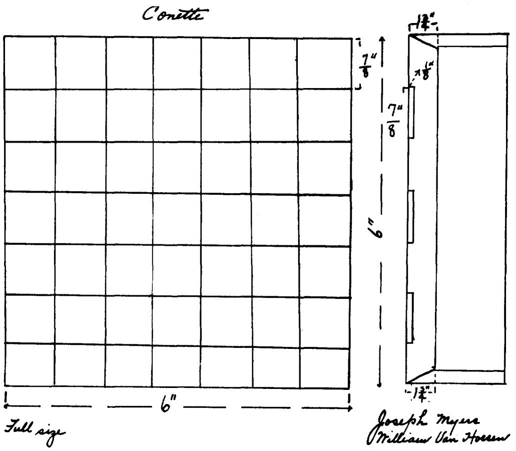
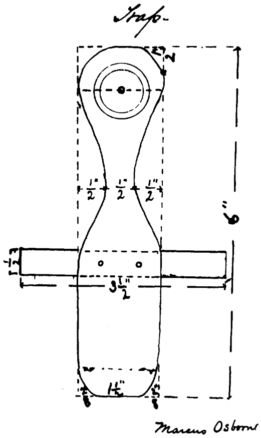
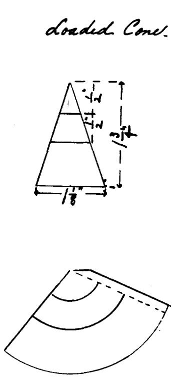
sition is horizontal; but in both cases it consists of throwing the five rings so dexterously as to place one on each hook or pole.

Conette consists in a box six inches square and one and three-fourths inches high, two traps, and a cylinder of loaded cones. The plan presents a view of the box as seen from above and one side of the box. Across the top of the box cords are strung at right angles with each other, so as to make a net. The most ingenious piece of work done in all the work with the games was probably the planning of the trap by a boy who is very averse to number but deeply interested in all constructive work. The trap was given to him with directions to show how to make one. The plan as shown here is what he produced at the end of one-half hour. The game of conette is one which was gotten out by the Milton Bradley Company.







Fifth Grade

Clara Isabel Mitchell

The kinds of hand-work planned for the month are cooking, weaving, clay-modeling, and wood-sloyd.

Cooking: In January the class began the cooking and study of cereals. The first lesson was the comparison of familiar cereals—wheat, corn, oats, barley, and rye; the popping of corn, weighing before and after popping; and making of popcorn balls. The second began with an examination of the corn food—corn meal, fine and coarse, hominy and corn-starch, followed by the making of corn-starch mold. The third was washing the starch out of wheat, boiling it and using. The fourth was the roasting of wheat and oats for cereal coffee, making the coffee; also of postum cereal.

Continuing the study of cereals in February, the children cook oats, corn, and wheat, comparing them with potato as another starch food. The first lesson will be the cooking of oatmeal and wheat germ by the following rule (Mrs. Alice P. Norton's):

(All measurements are made level.)

WHEAT GERM WITH DATES.

2 tablespoons of wheat germ.	1/8 teaspoon of salt.
1/2 cup boiling water.	4 dates, or 4 stewed prunes.

Sprinkle the wheat germ into rapidly boiling salted water, stirring rapidly. Boil for two minutes, then place the saucepan in another of boiling water, and continue the cooking for twenty minutes. Meanwhile remove the stones from the dates and cut them into small pieces. Stir them into the wheat germ just before serving. Cooked prunes may be used in place of the dates.

OATMEAL WITH FRUIT.

4 tablespoons rolled oats (steam cooked).
½ cup of water.
⅛ teaspoon of salt.
1 apple cooked in a syrup made from 1 tablespoon of sugar and ¼ cup of water.

Cook the oatmeal in water as directed for wheat germ, but extend the time to thirty minutes. Core, pare, and cook the apple. When it is soft, remove it from the syrup, place in a saucer, fill the cavity with the cooked oatmeal, and pile the rest of the oatmeal around it.

The second lesson will be an excursion to a flour-mill; the third, cooking of potato.

POTATO SOUP.

1 small potato.
1 cup milk.
1 small slice of onion. (This may be omitted.)
½ tablespoon butter.
½ tablespoon of flour.
¼ teaspoon of salt.
Speck of pepper.
¼ teaspoon chopped parsley.

Boil the potato till soft and mash thoroughly, using a potato ricer, if possible. Scald the milk with the onion, and remove onion. Make a thin white sauce as follows: Melt the butter, add the flour, salt, and pepper, mixed together; then the milk slowly, stirring constantly. Cook for two minutes, add to the potato, strain, stir in lightly the finely chopped parsley, and serve. If too thick, dilute with a little hot milk.

The principle of all vegetable soups is that of a white sauce diluted, with the addition of a vegetable. The flour is necessary even with the starchy vegetable, to "bind" the soup.

The fourth lesson will be the boiling of sugar to barley candy. In the course of the lessons children's attention will be called to the sweet taste of starch after mastication; different kinds of sugar will be shown them, and comparisons made between milk sugar, grape, beet, glucose, and cane; also between loaf sugar, granulated, confectioner's, powdered, and brown.

Weaving: Work on the cushion covers commenced in January will be continued. The apparatus, material, and plan for these are described in last month's Course of Study, under "Textiles." To contrast with this primitive weaving, the large modern loom will be used in making a coarse cotton or linen fabric, such as was made by the New England colonists. If the curtain for the book-shelves, already begun, prove successful, it will be ornamented with original designs worked out in coarse wools.

Wood-work: After the use of the primitive and modern looms, and an excursion to the factory of the Mansure Company, Lake Street and Michigan Avenue, an attempt will be made to have the children invent and make a loom of their own, one large enough to weave fabrics of a yard in width.

Nature Study: (Willard Streeter Bass.) Meteorology. The weather record by means of the color chart and graphical thermometer record will be continued this month.

Astronomy. The sun's slant will be observed with the skiameter, and the area of level ground covered by a beam of sunshine of given cross-section determined and compared with that of previous months. At the same time the average temperatures of the months will be compared.

Foods. The study of the common grains begun last month will be continued. Wheat will at first receive special attention. The class will study a single kernel, make transverse and longitudinal cuttings, and examine the sections with a hand lens. The use of the four concentric layers thus seen will be discussed. The class will then visit a flour-mill and watch the manner in which the various parts of the kernel are separated from each other and find the kind of flour which is obtained from each.

The children already know that starch occurs in flour, and is what makes the flour useful in making paste. They will now learn to recognize starch by the iodine test, and will examine all the grains for starch. They will also test other foods, such as potatoes, bananas, etc., for starch.

The class will determine by testing what articles of food contain sugar, and will find by comparison with the results of the above work whether these foods are the ones which also contain starch. The change of starch into sugar will be observed by chewing a starchy food for a long time and noting the change in its taste.

History: The history lessons will begin a comparison of the industries of the aboriginal Americans, contrasting their conditions with those of the early colonists. It is hoped that the view of these primitive beginnings may help the children to a better understanding of industries of our own time.

Children of the Fifth Grade are expected to know something about the history of the aboriginal tribes, and in addition to that to have been set thinking about the colonial life in early Massachusetts, Virginia, and New York. It is probable, however, that these particular children have not had work in the study of the aborigines, and therefore preparation will be made to teach it for the first time.

Beginning with Indian life, the method, in detail, will be:

1. Getting at the children's own experience in and knowledge of plains and mountains through oral and written expression or by means of drawings.
2. With pictures, stereopticon views, and descriptions bringing about clearer imaging of plains and forests as the homes of people.
3. Picturing in detail the Appalachian region, the St. Lawrence and Great Lake region, and the Mississippi Valley, giving temperature and prevailing winds, to let the children reason as far as they are able the habits and customs of savages native to each region.
4. Visiting museums, studying of pictures, and reading with the motive of learning more about the ways in which these early peoples found their food, obtained or made their clothing, and built their dwellings and defenses. Beyond this the study of Indian art and myth will give some sense of the Indian's thought about his own life and of his feeling toward nature.

Taking the Iroquois tribe as a type of the hunter Indian, the following points must be made clear in the development of the subject:

1. Effect of abundant game as food supply.
2. Lack of animals which could be domesticated.
3. Forest as affording protection and building material.
4. Importance of Indian corn.
5. Lack of incentive to the invention of tools other than the chipped or polished stone.
6. Plan of the Long-house explained by the needs of communal life.
7. Necessity for organization of tribes and clans; sachem, chief, and council; union of tribes.
8. Domestic life. Division of labor, primitive industries of building, horticulture, pottery, sewing and decoration of skins, making of stone implements, basket-weaving; all the natural consequence of environment.
9. Openness of the Mississippi Valley region as accounting for the building of mounds.
10. Same cause as explaining impossibility of advance in culture; lack of protecting mountain walls, which would have afforded opportunity for cultivating the arts of peace.

The life and customs of the Pueblos and Cliff Dwellers can be understood only through study of the geographical regions in which they were found. Some knowledge of the mountains of Arizona, Mexico, New Mexico, and Central America can be given through pictures, and this will be the basis of the children's reasoning for themselves the probable character, habits, and culture of the peoples. The method in this work will be the same as suggested above in connection with the study of the Iroquois, the following points being considered:

1. Structure of the Mandan house, as suggesting Pueblos.

2. Migration of northern tribes to the south and southwest.
3. Settlement in protected mountain places.
4. Necessity for irrigation involving change to agricultural habits.
5. Availability of clay as building material.
6. Evolution from sun-baked brick to rubble-stone and coral lime blocks.
7. Necessity for mutual protection expressed in the plan of the Pueblo village.
8. Greater protection of the Pueblos enabled them to progress further than other Indians in the science of government, in arts, and in the industries. Powers of government vested in (1) clan council; (2) sachem; (3) war chief. Differentiation in functions of offices — priests', tax-gatherers', speakers'.
9. Standards in domestic life higher than among Indians of the Iroquois type. Inheritance in the male line. Marriage laws.

Geography: The geography study will be planned to explain as much as possible of the history. That the children may get the conception of the continent of North America as the home of people, a powerful influence in shaping human life, they must be able to image something of its great masses of lowland and highland, and their relation to each other; the river systems, which explain so much of its building and wearing; soil, climate, winds, and animal and vegetable life.

Preparatory to direct work on the modeling of the relief map, it seems wise to make sure that the children have images of those elements which give life to the map. For that reason study and modeling of the continent have been preceded by pictures and stereopticon views of mountains, plains, plateaus, valleys, rivers, river-basins, forests, meadows, deserts, volcanoes, glaciers, and scenes of sea-action. Excursions to Lakeside and the sand dunes have taught the children the fundamental facts of the lake's wearing and building. This, with their experience at the seaside, and the pictures of coasts, can be built into the conception of the work done by the oceans in building and wearing the continent. Study of a few important rocks has given them a basis upon which to build their images of mountains — quartz, granite, gneiss, shale, mica, sandstone, and limestone, all of which they have tested by scratching and treating with acid.

Excursions to the lake-shore, to swamps, and to a farm have given opportunities for the study of soils, so the children know the story of the making of sand, vegetable mold, and garden loam. In the laboratory they have watched the workings of an artificial river, and have gained through that a notion of its wearing and building. Apparatus for illustrating rise and fall of a continent also is in process of construction in the laboratory.

In connection with the stereopticon views the children have been told the stories of the probable formation of the rocks, and the theories of the uplifting, folding, and volcanic eruption of mountains. With this as a basis, it is hoped that they may begin to image the continent as a background for the human life upon it.

The Indians, Cliff Dwellers, Pueblos, Eskimos, and early colonists will be pictured in their geographical positions, and the geography will be studied as explanatory of their characters and habits. The map of the whole continent will at first be modeled and drawn without much detail.

After the relations of the great highland masses, slopes, and plains have become sufficiently clear, the Mississippi Valley will be studied as the home of the Indians; the Appalachian and St. Lawrence region also as their home; the great western highlands as affecting winds and rainfall, and as affording protection to Cliff Dwellers and Pueblos.

Arithmetic: Arithmetic will be taught in measuring the effect of heat in evaporation of water. Evaporation, condensation, and precipitation of moisture will be studied in laboratory experiments, as relating to the questions of rainfall, distribution of moisture, and air movement; and as explaining primarily the existence of our great American forest and desert regions.

The introduction to this work will be the summing up of the children's observation as to causes of evaporation, cloud formation, rainfall, snow, hail, frost, and dew.

As helps to imaging conditions of these phenomena the following experiments will be made and discussed:

1. One gallon of water in a shallow wide vessel will stand for twenty-four hours in a place of low temperature. An equal amount of water in an exactly similar vessel will stand for the same length of time in a place of high temperature.
2. Same experiments will be made with deep, narrow vessels.
3. The same, again, will be performed with the quantity of water changed to 100 cubic centimeters.
4. Exactly similar experiments will be made, changing one condition—that of air movement. One set of shallow and deep vessels of water containing one gallon, or 100 cubic centimeters of water, will stand in a place of quiet; another set of equal quantities and proportion will be placed under a strong draught of air.

To understand the meaning of the experiments, the children must see and measure in each pair of experiments (a) in which case evaporation was greatest in volume; (b) how much greater; (c) what part of the volume of each evaporated; (d) what per cent of each volume evaporated; (e) difference in per cents.

Arithmetical processes will be taught at points where they are needed, and are not understood. After conclusions have been reached on the basis of results obtained in the experiments, the class will be asked to estimate amounts of evaporation of larger bodies of water varying in area.

It is hoped that these lessons will help children to image the larger work done by heat and air currents in distributing moisture over the surface of our continent.

Literature: As a means of getting more clearly at the standpoint of the people studied, we shall read as much as possible of their own thought as expressed in their literature. The truest translations available will be given to the children, and specimens of picture-writing shown at the same time.

Dramatic Expression: Certain parts of the literature read this month are considered sufficiently good from the literary and dramatic standpoint to bear the study necessary for oral expression. Some of these portions will be committed to memory, recited, and possibly dramatized. The bits selected are from Mrs. Ellen Russell Emerson's *Indian Myths*, and from original verses in *Reports of the Bureau of Ethnology*.

Reading: The children will read from *Stories of Industry* (Vol. II, pp. 82–99); selections from *Ethnological Reports*, IV and V; *Our Continent*, Shaler; Tarr and McMurry's Geography, *North America;* and opening chapters of *The Story of the Thirteen Colonies*, Guerke.

Writing: There will be ten minutes' daily practice in pen-movement; fifteen minutes each day will be spent in rapid writing of reports of laboratory work or cooking; conclusion of discussions, or personal experience or opinion on points of lessons.

Excursions: Excursions are planned to visit a flour-mill, a textile factory, and the Field Columbian Museum.

Art: Fine specimens of Indian art can be found in museums, and may also be studied in pictures. It is probable that contact with these beautiful objects and enjoyment of them will help greatly toward a more intimate knowledge of the life, thought, and feeling of the peoples who made them.

The children will make drawings and

paint pictures to illustrate scenes in Indian, cliff dwelling, and Pueblo life; bits of mountains, plains, and river scenery in connection with modeling the relief map of North America; illustrations of stories and myths. Indian statuettes and heads will be modeled in clay.

Music: (See Sixth Grade outline.)

References: SCIENCE. American Kitchen Magazine (Dec. 1900, p. 93), *How Flour is Made and Branded; Stories of Industry* (v. 2, pp. 82-99).

HISTORY. Fiske, *Discoveries of North America*, v. I, Chap. 1; Bancroft, *Native Races;* Morgan, *League of the Iroquois, Ancient Society, Houses and House Life;* Cadwallader Colden, *History of the Five Nations; Smithsonian Report, 1887* (pp. 605-681); Bandelier, *Archæological Tour of Mexico;* Catlin, *North American Indians; Reports of Bureau of Ethnology,* (V, 1-5, 7-10, 13-15; V, 539-555; II, 9-45; IV, 473-521); Naidaillac, *Prehistoric America*, Chap. V; Shaler, *North American Indians;* Starr, *American Indians.*

GEOGRAPHY. Reclus, *North America;* Carpenter, *North America;* Shaler, *Story of Our Continent*, also *United States of America;* Mill, *International Geography;* Stanford, *Compendium of North America;* Russell, *Lakes of North America*, also *Rivers of North America, Volcanoes of North America;* Frye, *Geography.*

LITERATURE. Mrs. Emerson, *Indian Myths;* Brinton, *Myths of the New World*, also *American Hero Myths;* Leland, *Algonquin Legends of New England.*

German: To overcome the beginners' difficulties in reading, besides Ahn's *Primer*, picture-books, and especially books for children of this and later ages, will be used. A list of the best of these books will be given which may help to make reading interesting and easy in class and at home. Writing exercises in small letters will be continued. The grammar topics are: Formation of plural, sentences involving the first future of "sein" and "haben." Exercises in addition, subtraction, multiplication, and division will be continued after the plan given in the January number. Questions and answers relating to time: names of the months, days of the week, division of time, will serve as a beginning in the language of every-day life. The memory work for February and March is:

Walter, Wilhelm Tell's boy, sings:

Mit dem Pfeil, dem Bogen
Durch Gebirg und Thal
Kommt der Schütz gezogen
Früh am Morgenſtrahl.

Wie im Reich der Lüfte
König iſt der Weih —
Durch Gebirg und Klüfte
Herrſcht der Schütze frei.

Ihm gehört das Weite;
Was ſein Pfeil erreicht,
Das iſt ſeine Beute,
Was da fleucht und kreucht.

Friedrich Schiller,
„Wilhelm Tell, III, 1."

Sixth Grade

Edith Foster Flint

Geography: The month's work will include a study of southwestern Asia—the region much of which Marco Polo crossed, and which embraced an important part of the old routes of trade between Europe and Asia. The children will first see it as a whole, as a table-land of the extent of Thibet, but much lower, with Arabia extending in peninsular form at its southern extremity into the Arabian Sea. They will note the waters which wash its boundaries—the Arabian Sea, the Persian Gulf, the Red Sea, the Mediterranean, the Caspian, and the Black seas, and the mountains which help to mark it off—the Suliman and Hindu Kush ranges on the east, and the